

29 February 1968

THE SOVIET MAN IN SPACE PROGRAM

Manned space flights have been a major factor in the Soviet space program since the launch of Sputnik I on 4 October 1957. The program has enjoyed a high priority and has shown elements of caution in planning and implementation. Through 1965 Soviet manned space efforts were extremely successful and achieved many firsts. Since that time, however, they have not continued at this rapid pace and suffered a serious setback in the death of Cosmonaut Vladimir Komarov in April 1967.

The USSR began to test their manned spacecraft in the spring of 1960. At this time, the Soviets launched the first of a series of unmanned recoverable test vehicles containing first a dummy and then dogs. These flights led to the world's first man in space, Yuri Gagarin in Vostok I in April 1961. This flight was then followed by the 24-hour flight of Gherman Titov in Vostok II in August. The basics were well laid for what was to follow.

The years 1962 and 1963 were those of the dual flights -- two spacecraft in orbit simultaneously. Vostoks III and IV was the first of these flights -- of four and three days duration, respectively. These flights increased Soviet knowledge of the effects of space flight on man as well as investigated problems associated with rendezvous and the control of two spacecraft simultaneously.

Vostoks V and VI increased the length of manned space flight to five days and introduced the world's first woman cosmonaut.

The next phase of the Soviet man in space program was to modify the Vostok as a multi-seated spacecraft and culminated in the launch of Voskhod I in October 1964.

This spacecraft was commanded by Cosmonaut Vladimir Komarov -- the cosmonaut later to be killed during the flight of Soyuz I. Two other passengers were an engineer and a doctor in an apparent attempt to test non-pilots as crew members. During the second and final flight of the Voskhod spacecraft, the Soviets successfully demonstrated the ability to perform extravehicular activities with Aleksey Leonov performing the world's first space walk.

There was then a hiatus of over two years. This time was apparently spent in the development of a new spacecraft, the Soyuz. The first manned flight of this spacecraft was in April 1967 when, with the death of Cosmonaut Komarov, the program suffered its most serious setback to date. The causes of this catastrophe apparently have not as yet been fully resolved. The investigating commission organized at the time of the accident has not as yet made a full public report, and there have been no subsequent manned flights by the USSR.

Despite the lack of manned space flights, the USSR has continued to develop booster vehicles, space hardware and techniques with which to continue their man in space program. In the launch vehicle for the Proton satellites, the Soviets have demonstrated the capability of orbiting payloads considerably greater than those previously used in the manned program. When this booster is planned to be used in the manned program remains unknown, but its very existence suggests Soviet intent to perform longer and more complex earth orbital missions. In addition, the unmanned rendezvous and docking of Cosmos 186 and Cosmos 188 was a demonstration of Soviet capability to perform complicated, completely automated operations in space.

In summary, the Soviet man in space program, which in its early stages was extremely active and aggressive, and as such accomplished many "firsts", has now slowed perceptibly. This slowdown was no doubt due first to the time needed for the development of a new Soyuz spacecraft and then prolonged by the death of Komarov.

It has also probably partly been due to the increasing complexity of mission objectives.

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| Vostok I | Yuri Gagarin | 12 April 1961 |
| Vostok II | Gherman Titov | 6-7 August 1961 |
| Vostok III | Andrian Nikolayev | 11-15 August 1962 |
| Vostok IV | Pavel Popovich | 12-15 August 1962 |
| Vostok V | Valeriy Bykovski | 14-19 June 1963 |
| Vostok VI | Valentina Tereskova | 16-19 June 1963 |
| Voskhod I | Vladimir Komarov | 12-13 October 1964 |
| | Konstantin Feoktistov | |
| | Boris Yegorov | |
| Voskhod II | Pavel Belyayev | 18-19 March 1965 |
| | Aleksey Leonov | |
| Soyuz I | Vladimir Komarov | 23-24 April 1967 |